



# Air and Waste Matters

DNREC Division of Air and Waste Management

This newsletter is **FREE!** Please sign up to receive it at:  
<http://www.dnrec.delaware.gov/Pages/DNRECLists.aspx>.  
No forms to fill out; done in 3 clicks!

Volume 1, Issue 12

April 2009

## Highlights in this edition include:

**Monitoring  
Landfill  
Expansion** 2  
*Continued...*

**Citizen,  
Policeman,  
Soldier and  
Scholar** 3

**Restoring a  
Mispillion  
Wetland** 4

**Restoring a  
Mispillion  
Wetland** 5  
*Continued...*

**Minding the  
Budget—How  
is the Division  
Funded?** 6

**DNREC and  
DeIDOT Win  
Governor's  
Award** 7

**More  
Information  
on the  
Division** 8

## Monitoring Expansion of DSWA's Cherry Island Landfill

**D**rivers passing Cherry Island Landfill on I-495 may be surprised to see something large, *very large*, slowly rising along the southern side of the landfill. It's the big Mechanically Stabilized Earth (MSE) berm that the Delaware Solid Waste Authority (DSWA) is constructing around three sides of the landfill.

When completed, this berm at Cherry Island will be one of the highest, most massive, reinforced earth structures ever constructed over soft soils in the United States. It will stretch for nearly two miles with an additional 60 feet of vertical height. It is a monumental project and an equally sizable effort for the state to carefully monitor the construction activities on the project.

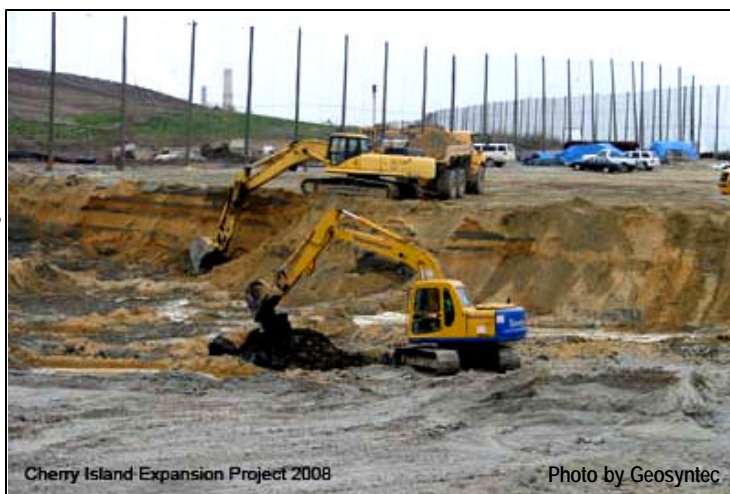
Senior staff from the Division's Solid and Hazardous Waste Management Branch are monitoring the ongoing expansion work to make sure that DSWA is complying with their solid waste facility permit. Staff meet with DSWA, their design engineers and Construction Quality Assurance (CQA) inspectors, and the general contractor periodically to discuss

the progress of the work, as well any project concerns.

On the site, the Solid and Hazardous Waste Management inspectors frequently review the work and efforts of the CQA staff to ensure that the landfill expansion is constructed in accordance with the project specifications, the CQA plan and other applicable standards and guidelines. The state inspectors spend a lot of time inspecting the CQA inspectors, as vigorous, effective Construction Quality Assurance is essential to the project's success.

Some of the state inspector's activities during construction include reviewing DSWA's geotechnical monitoring (for landfill stability), placement and monitor-

*(Continued on page 2)*



Cherry Island Expansion Project 2008

Photo by Geosyntec

**Earth-moving work continues on the Mechanically Stabilized Earth Berm at Cherry Island Landfill.**

## Monitoring Expansion of DSWA's Cherry Island Landfill *Continued...*

ing of special groundwater monitoring wells, dust control, and proper storage, handling and installation of materials.



**Landfill construction along the Delaware River at Cherry Island.**

To date, DSWA has hauled in over 1.5 million cubic yards of fill material to build the MSE berm. An extensive geotechnical monitoring network is in place to monitor the stability of the berm as it is being built. The berm, designed to stabilize foundation soils at the base of the landfill, will increase the waste capacity of the landfill and is projected to extend its useful life through 2025. DSWA hopes to complete the entire expansion project by July 2010.

Once DSWA has completed the construction, they must begin the equally formidable task of assembling all of the Construction Quality Assurance documents, including as-built drawings, test results, and material certifications in order to certify that the work was done in compliance with the requirements of the solid waste facility permit. These documents, along with comments and conclusions from the design engineers must be provided to

DNREC as the "Final Report" for the monumental MSE wall at Cherry Island Landfill. For more information on the work, please visit the DSWA consultant's website: <http://www.geosyntec.com/UI/Default.aspx?m=ViewProject&p=41>. The permit governing the landfill operation and the expansion is available at: <http://www.dnrec.delaware.gov/yardwaste/Documents/Permit%20SW-06-01.pdf>.

*Article by Robert Hartman, SHWMB*

### **DSWA Expanding Kent and Sussex Landfills**

The DSWA's landfills in both Kent and Sussex counties are currently going through the permitting process for expansions as well, although there will not be any MSE walls at these landfills in southern Delaware. DNREC is reviewing DSWA's permit application for a new landfill cell at their Sandtown landfill. Once DNREC confirms that the application is complete, the public will have an opportunity to review it, too. DSWA has already provided a complete permit application for a new cell at their Jones Crossroad's landfill and that application is currently available for review on the Department's website at:

<http://www.awm.delaware.gov/SHWMB/Pages/DSWASouthernSolidWasteMgtCenterPermitApp.aspx>.



**Remnants of a spring snow remain on the MSE berm.**

## Citizen, Policeman, Soldier and Scholar

It might just be another regular day for Captain Cook, but the rest of us have no idea how he manages to do what he does. First and foremost, he is a certified Delaware Law Enforcement Officers with over 19 years of service including serving as the Patrol Coordinator for DNREC Enforcement since 1995. As such, he has also been the Incident Commander on some of Delaware's major environmental catastrophes, including the Delaware City oil refinery tank collapse, train derailments and major industry releases.

As if that's not enough, he is also a certified Homeland Defense Awareness Instructor with experience in Hazardous Materials response and investigations. He has over 16 years of experience in terrorism and Nuclear/Biological/Chemical agents. He served on the Governor's Task Force on Weapons of Mass Destruction (WMD) on Terrorism in 2001, and rapidly trained all state agencies on WMD awareness after the 9/11 Terrorist Attacks.

But we are just getting started now. He also began a military career with the Delaware Army National Guard in the 153<sup>rd</sup> Military Police Company in 1989. In 2004, he transferred to the 262 CR Company in Dagsboro.

The scholar part? Why, he was just recently



**The Division's very committed Captain Cook.**

awarded a BS from Wilmington University in Criminal Justice and is now pursuing a Master of Science degree in teaching from Ashford University in Iowa.

And, did we mention, he has also coached Little League Baseball for about 20 years now, and is currently coaching the Woodbridge Girls Softball Team? Yes, just another day in the exemplary state service of Captain Michael Cook.

*Article by C. Wirtz, DAWM*

### Environmental Crimes Unit

The Division of Air and Waste Management includes an enforcement unit called the ENVIRONMENTAL CRIMES UNIT. ENVIRONMENTAL PROTECTION OFFICERS within the unit enforce the state's air, waste, and water pollution laws and participate on the DNREC Emergency Response Team by responding to environmental emergencies 24/7.

The Division maintains a toll-free 24-hour complaint line for citizens to report environmental violations —1-800-662-8802, or #DNR for Verizon Wireless Customers.

Chief, William P. McDaniel - (302) 739-9401



## Restoring a Mispillion Wetland

**A**long the Mispillion River in Kent County, Delaware, a degraded marsh has been transformed into ecologically-balanced habitat for local and migratory wildlife. The 56-acre private site consists of one of the river's original meanders (an oxbow) and associated wetland with more than 2,000 feet of river frontage.

The restoration, which was completed in June 2008, is a Natural Resource Damage Assessment and Restoration (NRDAR) project for the DuPont Newport Superfund Site on the Christina River. Under the Superfund law, the Natural Resource Trustees (DNREC, National Oceanic and Atmospheric Administration [NOAA], and the U.S. Fish and Wildlife Service [USFWS]) were authorized to recover damages for losses and injuries to resources associated with releases of hazardous substances at the Newport site.

The Trustees worked cooperatively with DuPont to identify a project that would replace the resources lost at the Newport Superfund Site. The restoration site was selected from more than 30 projects considered.

Over the past 50 years, the restoration site had taken a beating. The original meandering channel had been choked with sediments eroded from up-stream after the channel was straightened creating the oxbow. The marsh was infested with *Phragmites*, also known as common reed, an invasive plant commonly seen along highways in degraded marshes and other disturbed

areas. The marsh along the straightened channel was severely eroded by boat wakes.

The Trustees and DuPont developed a three-fold restoration plan for the site: 1) enlarge the choked oxbow channel, 2) reopen lost tidal pools within the marsh and 3) stabilize the banks of the main channel. They also dredged selected mudflats that were once tidal pools, creating vital fish rearing areas.

Widening the choked oxbow enhanced the tidal flushing of the oxbow channel and the newly reopened pools and reduced their tendency to refill with sediment. The pools were enlarged to approximately their original size and reopened to tidal flow.

These enhancements restored nursery and refuge habitat for small fish, as well as feeding habitat for waterfowl and wading birds such as ducks and herons. Another benefit of reopening the tidal pools is that the fish feed on mosquito larvae: an adult mummichog can eat up to 2,000 mosquito larvae in a day.

To provide immediate protection from erosive forces such as boat wakes, a new river bank stabilization technique was employed along the main river channel. Large-diameter woody de-



Photo by Karissa Hendershot

**Placement of coarse woody debris with track-hoe to stabilize eroding river bank.**

## Restoring a Mispillion Wetland *Continued...*

(Continued from page 4)

bris (LWD) was embedded and anchored into the riverbank in a crisscross pattern. The LWD consisted of 216 hardwood tree trunks between 12 and 25 feet long with root balls attached.

In addition, several rows of coconut fiber “biologs” were placed behind the LWD to trap sediment and provide a growing medium for native marsh vegetation. This bio-engineering method not only protects the riverbank from erosion but also traps sediment while providing roosting, nesting and foraging opportunities for fish and wildlife. This technique is also more ecologically appropriate than using stone riprap or steel bulkheads.

The restoration site will remain in private hands, with a conservation easement held and enforced by DNREC, which will also take responsibility for the project following a five-



Photo by Karissa Hendershot

**Placement of three rows of biodegradable coconut fiber “biologs” behind coarse woody debris along the Mispillion River.**

year monitoring phase. For more information on NRDA, please visit:

<http://www.awm.delaware.gov/SIRB/Pages/NRDA.aspx>.

*Article by G. DeCowsky and K. Hendershot  
DNREC Press Release 10/2/08*

### **NRDA PROCESS**

In general, the State Trustees are responsible for protecting all natural resources within the state boundaries or otherwise “appertaining” to the state. (In many cases these overlap with Federal Trust resources.) The Trustees are responsible for conducting the natural resource damage assessment (NRDA). Once the NRDA is complete then the Trustees sit down and choose a restoration project that will match the resources that were injured or lost at the site. Sometimes, as with DuPont, this process is conducted in cooperation with the responsible party. The remediation addresses the contamination, but the restoration balances the resources and services that were lost.



Photo by Carl Alderson, NOAA

**Trustees Sherry Krest (USFWS) and Karissa Hendershot (DNREC) on post-construction inspection along one of several tidal pools created during the restoration.**

## Minding the Budget — How is the Division Funded?

These days everyone is talking budget — budget cuts, shrinking revenues and deficits in the State General Fund. To impress the seriousness of cutting \$600 million from the State Budget, Governor Markell stated that this is the equivalent of closing over 11 current state agencies, including DNREC (that's not the plan, just an example). DNREC is considered a medium-size state agency and it alone has a budget of over \$153 million. So why would it take so many state agencies to reach the \$600 million mark in our General Fund shortfall?

For an agency like DNREC, only a portion of its budget comes from the State's General Fund. DNREC also gets funding from federal grants and fees. For example, 11% of the Division of Air and Waste Management's budget comes from the General Fund. Another 7% comes from federal grants issued through the US Environmental Protection Agency (EPA).

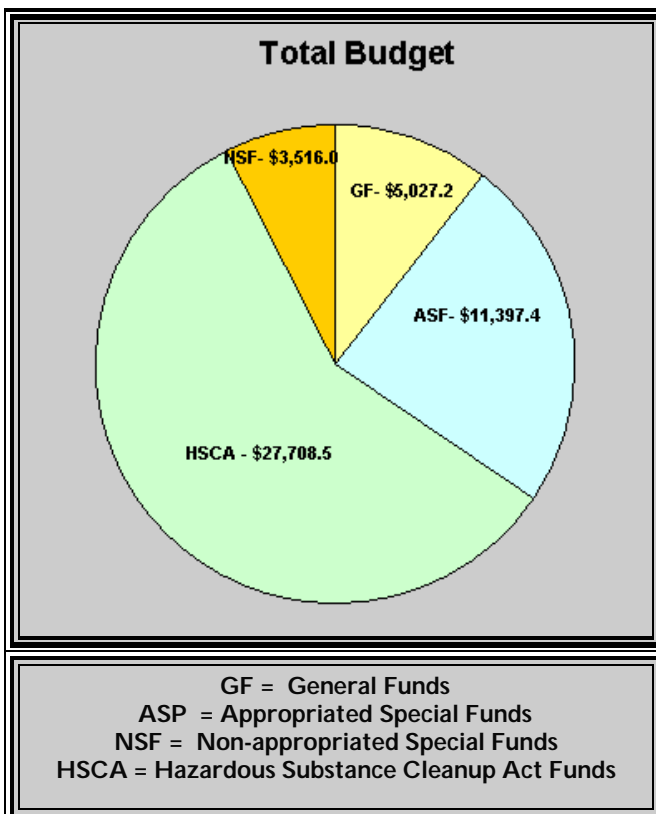
The remaining 82% comes from fees charged to individuals seeking permits and a tax on gross receipts of petroleum sales.

The Division's General Funds are mostly allocated to salaries that cover senior management positions and some specific programs, such as solid waste and the Emergency Planning and Community Right-to-Know programs that do not have associated federal grants. Also, our General Fund positions are used to meet the required state match to the federal grants we receive.

Currently, the Division has over 20 federal grants. The largest ones cover our core programs, including air, hazardous waste, underground storage tanks, and site remediation. There are also specific grants to clean up each of the State's federal Superfund sites, establish monitoring programs for fine particulates and air toxics, and one where all the funds go to retrofit diesel school busses to reduce air emissions. The grants that cover the base programs are issued to the State every year as Delaware has received delegation to run these programs from EPA. For others, like the diesel retrofit grant, the Division has to compete on a national scale to get the grants.

By far the Division's largest source of funds is fees. Although fees make up 82% of the Division's budget, only 24% comes from permit fees. The remaining 58% comes from the Hazardous Substance Cleanup Act (HSCA) tax on the wholesale receipts of petroleum products. Revenue from the HSCA fund increases and decreases with the price of gasoline and the amount sold in the State.

HSCA funding is used by law to cleanup sites that are contaminated by hazardous substances. Examples include gas stations with leaking tanks, oil spills in our waterways, factories, and old dump sites. Whenever possible,



(Continued on page 7)



## DNREC and DelDOT Win Governor's Team Excellence Award

### The Governor's Team

**Excellence Award** is presented annually to a team of state employees that partner together and demonstrate leadership and ingenuity for better efficiency and improved customer service in task completion; or new and creative ways of doing business and cost savings.

### The Fox Point Park-

**Glenville Project Team** was chosen for the successful partnership between two state agencies in the expansion of the Fox Point State Park. The project included providing public access to the Delaware River, flood-mitigation of the Glenville neighborhood, and the creation of a new 48-acre wetland habitat, with a \$3 million dollar cost savings to the taxpayers of Delaware. For more information on the project, please visit: <http://www.awm.delaware.gov/SIRB/Pages/FinalizingFoxPoint.aspx>.



**Governor Minner with award-winning DNREC and DelDOT staff—for more information on the award, please see:**

<http://www.delawarepersonnel.com/awards/excellence/index.shtml>

## Minding the Budget *Continued from page 6...*

the Division recovers the cleanup costs from the responsible parties for the contamination.

The Division also has over 70 fees for permits, inspections and reporting. Many of these fees have not increased since 1991, while the Underground Storage Tank registration fee has remained the same since 1985. Title V Air Permit fee is revised every three years per State law. All DNREC fees must be approved by the General Assembly in order to be assessed and modified. Most of these fees go back to the program to pay for the staff time of the people who issue the permits or do the inspections. The exceptions to this are the Boiler Safety fees that go

back to the General Fund and the fees generated from the Hazardous Chemical Inventory Reporting, that are passed through to the State Emergency Response Commission to support the State's ability to respond to incidents involving the release of hazardous chemicals.

DNREC has implemented cost-cutting efforts across all Divisions and will continue to look for every opportunity to reduce expenses without reducing our service to Delaware citizens.

*Article by Marjorie. Crofts, DAWM*

**DELAWARE  
DEPARTMENT OF  
NATURAL  
RESOURCES AND  
ENVIRONMENTAL  
CONTROL**

Secretary Collin O'Mara  
Deputy Sec. David Small

**DNREC Division of Air and  
Waste Management**  
89 Kings Highway  
Dover, Delaware 19901

**Division Director**  
**James D. Werner**  
Phone: 302-739-9400  
Fax: 302-739-5060

**Editor: Christina Wirtz**  
Phone 302-395-2600  
christina.wirtz@state.de.us

We're on the web!  
[www.awm.delaware.gov](http://www.awm.delaware.gov)

**Visit the Site  
Investigation and  
Restoration Branch  
Brownfields Website  
at:**

[http://  
www.dnrec.state.de.us/  
dnrec2000/Divisions/  
AWM/sirb/  
brownfield.asp](http://www.dnrec.state.de.us/dnrec2000/Divisions/AWM/sirb/brownfield.asp)

**for more Brownfields  
information.**



**The Division of Air and Waste Management includes the following sections and responsibilities:**

- ***Air Quality Management Section*** — air monitoring and regulating air emissions.
- ***Tank Management Branch*** — maintenance and installation of underground and above ground storage tanks & overseeing cleanup of tanks which may leak.
- ***Emergency Prevention and Response Branch*** — preventing industrial accidents, assuring emergency planning and community right-to-know, and responding to environmental emergencies.
- ***Environmental Crimes Unit*** — the Enforcement Officers enforce the state's air, waste and water pollution laws, and participate on DNREC's Environmental Response Team by responding to environmental emergencies.
- ***Site Investigation and Restoration Branch*** — remediation of sites contaminated by hazardous substances (Superfund/Brownfields/Voluntary Cleanup Program).
- ***Solid and Hazardous Waste Management Branch*** — reuse, recycling, transport and disposal of solid and hazardous waste.

## EASY REFERENCE PHONE NUMBERS

24-Hour Report and Spill Notification Line - 1-800-662-8802  
Aboveground Storage Tanks - 302-395-2500  
Air Quality - Dover Office - 302-739-9402  
- New Castle Office - 302-323-4542  
Asbestos - New Castle - 302-323-4542  
- Kent & Sussex - 302-739-9402  
Boiler Safety - 302-672-7653  
Brownfields - 302-395-2600  
Emergency Prevention and Response - 302-739-9404  
Environmental Crimes Unit - 302-739-9401 or 1-800-662-8802  
Hazardous Waste - 302-739-9403  
Medical Waste - 302-739-9403  
Open Burning - 302-739-9402  
Outreach Ombudsman - 302-395-2515  
Recycling - 302-739-9403  
Site Investigation & Restoration Branch (Superfund/Brownfields) - 302-395-2600  
Small Business Ombudsman - 302-739-9909  
Solid Waste - 302-739-9403  
Underground Storage Tanks - 302-395-2500

## Spring Garden and Yard Cleanup?



### Three-Bin Compost Unit

Why not recycle your garden and yard waste? For more information on yard waste recycling alternatives, please visit DNREC's web site at: <http://www.dnrec.delaware.gov/yardwaste/Pages/Default.aspx>, or contact Jim Short or Bill Miller at (302) 739-9403, or by e-mail at

James.Short@state.de.us or Bill.Miller@state.de.us .